

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Yingru Wu, et al. Examiner: Stuart F. Baum  
U.S. Serial No.: 10/594,785 Group Art: 1638  
Filed : September 17, 2007  
For : GENES INVOLVED IN PLANT FIBRE DEVELOPMENT

30 Rockefeller Plaza  
January 31, 2011

**BY EFS**

Commissioner for Patents  
Alexandria, VA 22313-1450

Sir:

PETITION UNDER 37 C.F.R. §1.144  
FROM REQUIREMENT FOR RESTRICTION

This Petition submitted under 37 C.F.R. §1.144 requests that the final requirement for restriction of claims 118, 121-122, 124-126, 128, 130, 132, 134, 138, 140-142 presented in the October 1, 2010 Office Action issued in connection with the above-identified application be withdrawn. Pursuant to 37 C.F.R. §1.144, this Petition is being filed no later than appeal of the above-identified application. Accordingly, this Petition is being timely filed.

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**Requirements of a Petition Under 37 C.F.R. §1.144**

Pursuant to 37 C.F.R. §1.181, a petition under 37 C.F.R. §1.144 must contain a statement of the facts involved, the point or points to be reviewed, and the action requested.

**Statement of the Facts Involved and the  
Point or Points to be Reviewed and the Action Requested**

**1. Statement of Facts Involved**

In the December 28, 2009 Office Action, the Examiner required restriction of the claims under PCT Rule 13.1 to one of the following nine (9) groups:

- I. Claims 85 (in part), 86-87, and 90, drawn to a method of altering fiber initiation and/or elongation comprising manipulating a plant such that the production of a polypeptide is modified, wherein the polypeptide is a transcription factor, regulatory protein or a cell cycle protein, wherein the method comprises recombinantly expressing the polypeptide in said plant (Further requiring election of one amino acid sequence from claim 86 and indicate if the polypeptide is a transcription factor, regulatory protein or cell cycle protein);
- II. Claim 85 (in part) and 88-89, drawn to a method of altering fiber initiation and/or elongation comprising manipulating a plant such that the production of a polypeptide is modified, wherein the polypeptide is a transcription factor, regulatory protein or a cell cycle protein, wherein the method comprises reducing the level of the polypeptide in said plant (Further requiring election of a specific antisense polynucleotide, a specific catalytic polynucleotide, or a specific dsRNA molecule);
- III. Claims 91-93, 103 and 105, drawn to a method of assessing the potential of a fiber producing plant comprising analyzing the plant for a genetic variation in a polynucleotide (Further requiring

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- election of one DNA sequence and one corresponding amino acid sequence);
- IV. Claim 94, drawn to an isolated protein (Further requiring election of one amino acid sequence);
  - V. Claims 95, 97, 99, 101, 107 and 109, drawn to an isolated and/or exogenous polynucleotide; vector, host cell, transgenic plant and transgenic seed comprising said polynucleotide (Further requiring election of one nucleotide sequence);
  - VI. Claims 96, 98, 100, 102, 108 and 110, drawn to a polynucleotide which is catalytic polynucleotide capable of cleaving a polynucleotide or a double stranded RNA (Further requiring election of one DNA sequence);
  - VII. Claims 104 and 106, drawn to a method of selecting from a breeding population a fiber producing plant;
  - VIII. Claim 111, drawn to a method of identifying an agent which alters fiber initiation and/or elongation; and
  - IX. Claims 112-116, drawn to a transgenic fiber producing plant (Further requiring election of one DNA sequence and one corresponding amino acid sequence).

On page 3 of the December 28, 2009 Office Action, the Examiner alleged that the inventions listed as Groups I-IX did not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the prior art Takatusuji et al. (U.S. Patent 6,297,429) anticipated the claims pending in that office action. Specifically, Takatusuji et al. disclosed a nucleic acid sequence that encoded a transcription factor transformed into a plant wherein the transcription factor was over-expressed and would inherently alter fiber initiation and/or elongation. Thus, the Examiner stated that the then pending claims lacked the same or corresponding special technical feature which was a contribution over the prior art.

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In response, Applicants filed on July 1, 2010 an Amendment electing, with traverse, to prosecute the invention of Examiner's Group I, drawn to a method of altering fibre initiation and/or elongation comprising manipulating a plant such that the production of a polypeptide is modified, wherein the polypeptide is a transcription factor, regulatory protein or a cell cycle protein, wherein the method comprises recombinantly expressing the polypeptide in said plant.

In their July 1, 2010 Amendment, applicants cancelled the previously pending claims 85-116, and added new claims 117-142. Claims 117-142 recited as an element "a polypeptide" comprising consecutive amino acids whose sequence is at least 95% identical to the amino acid sequence encoded by the nucleotide sequence set forth in SEQ ID NO: 38 or "a polypeptide" comprising consecutive amino acids whose sequence is at least 95% identical to the amino acids sequence set forth in SEQ ID NO: 12. Claims 117-142 satisfied the requirement of unity of invention and recited a contribution over the prior art because Takatsuji et al. did not disclose the polypeptide element recited by the claims. Because the polypeptide is a technical feature linking claims 117-142 which was not taught by Takatsuji et al., applicants maintained that they were entitled to prosecution of all claims 117-142 in the same application pursuant to PCT Rule 13.2.

Applicants further noted that all of the claims pending after the July 1, 2010 Amendment related to SEQ ID NO: 38 and/or SEQ ID NO: 12.

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*October 1, 2010 Office Action*

In the October 1, 2010 Office Action, the Examiner withdrew claims 118, 121-122, 124-126, 128, 130, 132, 134, 138, and 140-142 from consideration and objected to claims 119 and 123 for being drawn to non-elected inventions. On page 3 of the October 1, 2010 Office Action, the Examiner alleged that the special technical feature of applicant's invention is **a method** of altering fibre initiation and/or elongation comprising genetically manipulating a plant such that the production of a polypeptide is increased, wherein the amino acid sequence of the polypeptide is at least 95% identical to the amino acid sequence of the polypeptide encoded by SEQ ID No. 38.

The Examiner alleged that the special technical feature was not shared or linked to a method of altering fibre initiation and/or elongation comprising decreasing expression of production of said polypeptide (Group II), a method of assessing the potential of a fibre producing plant (Group III), an isolated polypeptide of Group IV, a polynucleotide which is a catalytic polynucleotide (Group VI), a method of breeding a fibre producing plant (Group VII), or a method of identifying an agent which alters fibre initiation and/or elongation (Group VIII). Thus, the Examiner stated that the withdrawn claims lack the same or corresponding special technical feature which is a contribution over the prior art shared with Group I, which was elected with traverse in applicant's July 1, 2010 response to the December 28, 2009 Office Action.

2. Point to be Reviewed

The Examiner arbitrarily misidentified the special technical feature of applicants' invention and pending claims. The

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special technical feature is a **polypeptide** comprising consecutive amino acids whose sequence is identical to the amino acid sequence of the polypeptide encoded by the nucleotide sequence set forth in SEQ ID NO: 38. This feature is an element of every pending claim.

The **polypeptide** recited in the pending claims (not the method as asserted by the examiner) is the special technical feature because it represents a "contribution" over the prior art as evidenced by the October 1, 2010 Office Action. Chapter 10 paragraph 4 of the PCT International Search and Preliminary Examination Guidelines (attached hereto as **Exhibit 1**) clearly states that under Rule 13.2, if "there is a single general inventive concept that appears novel and involves inventive step, then objection of lack of unity does not arise." Claims 117-142 satisfy the requirement of unity of invention and recite a contribution over the prior art because "a polypeptide comprising consecutive amino acids whose sequence is identical to the amino acid sequence encoded by the nucleotide sequence set forth in SEQ ID NO: 38" and "a polypeptide comprising consecutive amino acids whose sequence is identical to the amino acids sequence set forth in SEQ ID NO: 12" are **novel and inventive over the prior art** as evidenced by the October 1, 2010 Office Action.

Neither the purified nucleotide sequence SEQ ID NO: 38, nor the isolated amino acid sequence SEQ ID NO: 12 encoded by it, is disclosed in the prior art. Since the technical feature linking claims 117-142 has not been taught in the prior art it is novel, and applicants maintain that they are entitled to prosecution of claims relying on the feature in the same application pursuant to PCT Rule 13.2.

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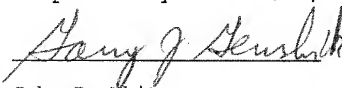
3. Action Requested

In conclusion, applicants respectfully request removal of restriction of claims 118, 121-122, 124-126, 128, 130, 132, 134, 138, 140-142 from elected Group 1.

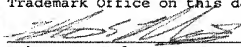
If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee is deemed necessary in connection for the filing of this Communication. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



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WORLD INTELLECTUAL PROPERTY ORGANIZATION  
GENEVA

PCT/GL/ISPE/1  
ORIGINAL: English  
DATE: March 11, 2004

**PATENT COOPERATION TREATY (PCT)**

**PCT INTERNATIONAL SEARCH AND  
PRELIMINARY EXAMINATION GUIDELINES**

(Guidelines for the Processing by International Searching and  
Preliminary Examining Authorities of International Applications  
Under the Patent Cooperation Treaty)

*as in force from March 25, 2004*

1. This document contains the text, as in force from March 25, 2004, of the PCT International Search and Preliminary Examination Guidelines, established by the International Bureau of WIPO after consultation with the International Searching and Preliminary Examining Authorities under the PCT with a view, in particular, to implementing the amendments of the PCT Regulations which entered into force on January 1, 2004.
2. The Guidelines apply to the processing of international applications filed on or after January 1, 2004. They supersede the PCT International Search Guidelines, as in force from September 18, 1998 (document PCT/GL/IS/1), and the PCT International Preliminary Examination Guidelines, as in force from October 9, 1998 (document PCT/GL/IPE/1), which were published in Special Issues of the *PCT Gazette* Nos. S-06/1998 and S-07/1998, respectively. The text of the present Guidelines is the same (subject to minor editorial changes) as in the provisional version of this document (document PCT/GL/ISPE/1 Prov.2) which has been applicable, in practice, since January 1, 2004.
3. The text will also be published in Special Issue No. S-02/2004 (dated March 25, 2004) of the *PCT Gazette*.

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Exhibit 1



## Chapter 10

### Unity of Invention

#### Determination of Unity of Invention

Article 17(3)(a); Rule 13; Section 206

10.01 An international application should relate to only one invention or, if there is more than one invention, the inclusion of those inventions in one international application is only permitted if all inventions are so linked as to form a single general inventive concept (Rule 13.1). With respect to a group of inventions claimed in an international application, unity of invention exists only when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding special technical features. The expression “special technical features” is defined in Rule 13.2 as meaning those technical features that define a contribution which each of the inventions, considered as a whole, makes over the prior art. The determination is made on the contents of the claims as interpreted in light of the description and drawings (if any).

Rule 13.2; AI Annex B, Part 1(b)

10.02 Whether or not any particular technical feature makes a “contribution” over the prior art, and therefore constitutes a “special technical feature,” is considered with respect to novelty and inventive step. For example, a document discovered in the international search shows that there is a presumption of lack of novelty or inventive step in a main claim, so that there may be no technical relationship left over the prior art among the claimed inventions involving one or more of the same or corresponding special technical features, leaving two or more dependent claims without a single general inventive concept.

Rule 13.2

10.03 Lack of unity of invention may be directly evident “*a priori*,” that is, before considering the claims in relation to any prior art, or may only become apparent “*a posteriori*,” that is, after taking the prior art into consideration. For example, independent claims to A + X, A + Y, X + Y can be said to lack unity *a priori* as there is no subject matter common to all claims. In the case of independent claims to A + X and A + Y, unity of invention is present *a priori* as A is common to both claims. However, if it can be established that A is known, there is lack of unity *a posteriori*, since A (be it a single feature or a group of features) is not a technical feature that defines a contribution over the prior art.

10.04 Although lack of unity of invention should certainly be raised in clear cases, it should neither be raised nor persisted in on the basis of a narrow, literal or academic approach. There should be a broad, practical consideration of the degree of interdependence of the alternatives presented, in relation to the state of the art as revealed by the international search or, in accordance with Article 33(6), by any additional document considered to be relevant. If the common matter of the independent claims is well known and the remaining subject matter of each claim differs from that of the others without there being any unifying novel inventive concept common to all, then clearly there is lack of unity of invention. If, on the other hand, there is a single general inventive concept that appears novel and involves inventive step, then objection of lack of unity does not arise. For determining the action to be taken by the examiner between these two extremes, rigid rules cannot be given and each case is considered on its merits, the benefit of any doubt being given to the applicant.

10.05 From the preceding paragraphs it is clear that the decision with respect to unity of invention rests with the International Searching Authority or the International Preliminary Examining Authority. However, the Authority should not raise objection of lack of unity of invention merely because the inventions claimed are classified in separate classification